REMARKS

Claims 2-12 remain in the application. Claims 1 and 13-17 were previously canceled without prejudice.

Claim Rejections--Section 103

Claims 2-12 stand rejected under 35 USC 103(a) as being unpatentable over DeHann et al (USP 6,937,655) in view of Doricutt et al (USP 5,329,309). Applicants respectfully traverse this rejection.

Claim 2 recites as follows.

> 2.   A method for **interlacing a progressive video sequence to produce an interlaced video sequence**, the method comprising:
>   obtaining at least two consecutive frames of a progressive scan video sequence;
>   **segmenting at least one of said frames into constituent objects;**
>   **estimating a motion of said constituent objects between the at least two frames;**
>   **using the estimated motion for each object between frames to interpolate the motion of each object between the first frame and an intermediate frame;** and
>   **using the interpolated motion for each object to construct the intermediate frame.**
> (Emphasis added.)

As seen from the above, claim 2 relates to "A method for **interlacing a progressive video sequence to produce an interlaced video sequence ....**" The claimed method requires "**segmenting at least one of said frames into constituent objects; estimating a motion of said constituent objects** between the at least two frames; **using the estimated motion for each object between frames to interpolate the motion of each object between the first frame and an intermediate frame; and using the interpolated motion for each object to construct the intermediate frame.**"

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In contrast to claim 2, DeHann et al does not relate to "interlacing a progressive video sequence to produce an interlaced video sequence." Instead, DeHann et al. relates to "**detecting a picture repetition mode of film material with a series of consecutive fields**." (Abstract of DeHann.)

The latest office action cites DeHann et al as disclosing "that an intermediate frame is generated based upon the subsampling of the incoming fields/frames (Figs 1-3 and description)." (Page 2 of Office Action.) However, applicants respectfully submit that **Figs 1-3 and the related description in DeHann et al do not disclose "that an intermediate frame is generated based upon the subsampling of the incoming fields/frames."** Instead, DeHann et al describes Figs 1-3 as follows. "FIG. 1 shows a block diagram of an arrangement with a plurality of parameter estimators $PE_m(n)$ connected in parallel to the output of a data reduction unit DRU." (Column 5, lines 27-30.) "FIGS. 2A-2D give an example of a selection of pixel blocks of interest in an image with a single moving object, i.e., a bicyclist, and a moving background." (Column 7, lines 14-16.) "FIGS. 3A-3D give an example of segmentation according to the object-based motion estimation method, with the original luminance image." (Column 8, lines 43-45.)

The latest office action further states, "The reception of a progressive signal which is later converted to interlaced, or no conversion based of course on the display/user requirements is conventional practice in the art. The examiner evidences such practice by incorporating Dorricott ...." As discussed in the Background section of the application, applicants agree that conversion from

progressive to interlaced video has been accomplished before, for example, as in Dorricott et al. However, applicants respectfully submit that **the claimed invention pertains to an improved technique for converting from progressive to interlaced video. This technique involves using estimated motion of the objects between progressive frames in creating an intermediate frame.** A first field (for example, an odd field) may then be extracted from a first progressive frame, and a second field (for example, an even field) may then be extracted from the newly created intermediate frame. (See, for example, claim 3.) **This sequence of fields makes up a "smoother" version of an interlaced video.**

For at least the above discussed reasons, applicants respectfully submit that claim 2 is now patentably distinguished over the applied references.

Claims 3-12 depend from claim 2. As such, applicants respectfully submit that claims 3-12 are also patentably distinguished over the applied references for at least the same reasons as discussed above in relation to claim 2.

For the above discussed reasons, applicants respectfully submit that all pending claims in the application are now in form for allowance.
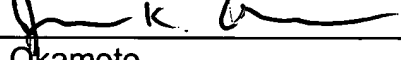
Conclusion

For at least the above reasons, it is respectfully submitted that pending claims 2-12 are now patentably distinguished over the applied references and in form for allowance.
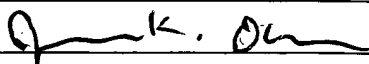
The Examiner is invited to call the undersigned for any questions. Favorable action is respectfully solicited.

Respectfully submitted,

Gary R. Holt, et al.

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Enclosure(s)

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